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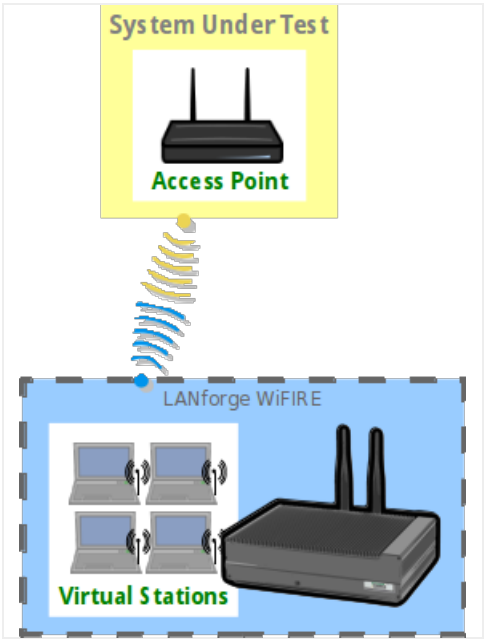
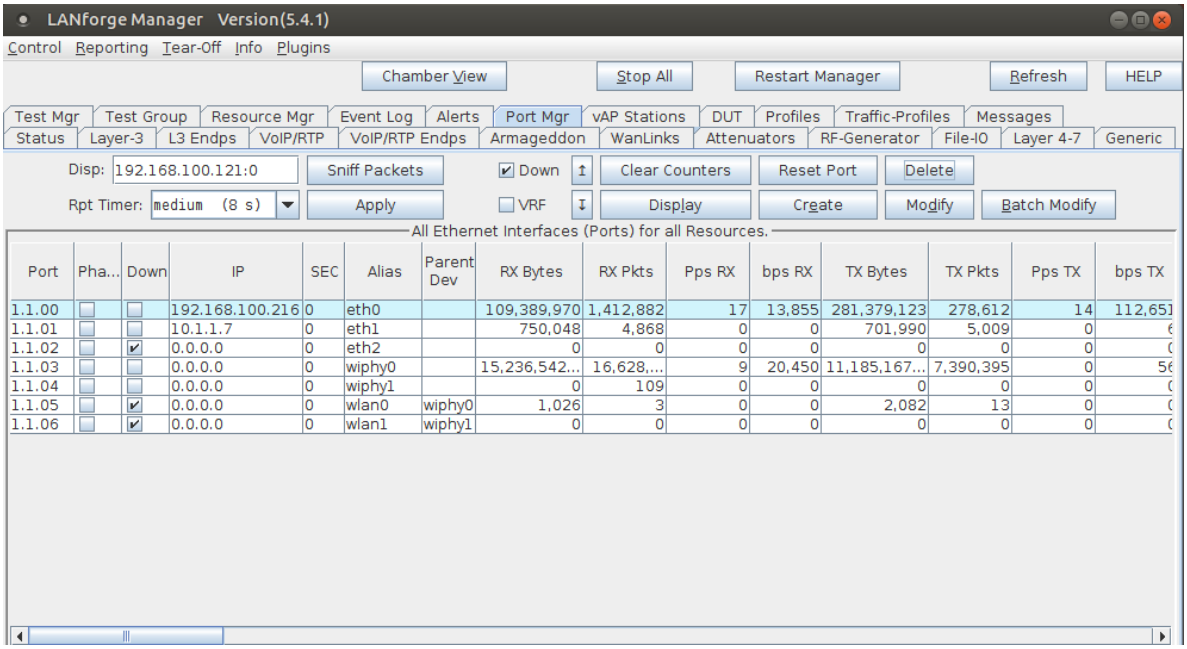
Generating Traffic for WLAN Testing

Goal: Setup and run Wireless LAN traffic using the LANforge CT523 or similar system. In this test scenario, the LANforge CT523 is used to simulate 4 virtual wireless stations that associate with a third party access point. Three traffic tests will be configured and run to demonstrate possible wireless access point tests. **NOTE:** This cookbook assumes that you have already created a VAP, and have an interface that is handing out DHCP addresses.

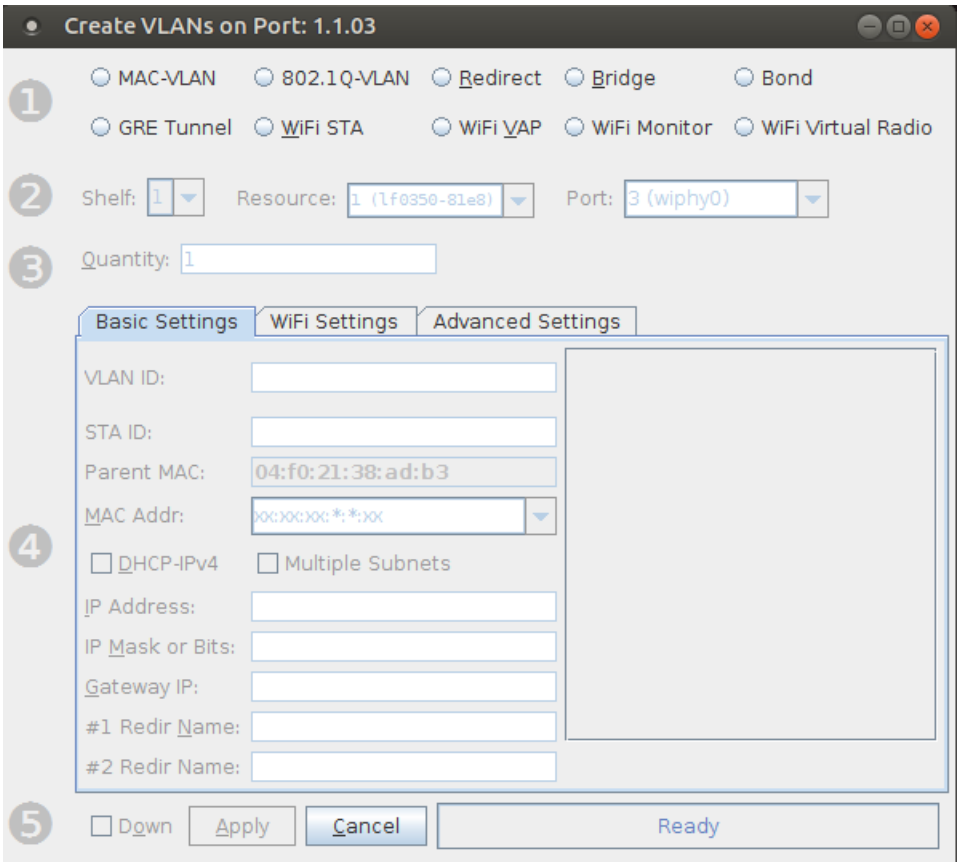


1. Create the virtual wireless stations.
   Note: All of its virtual stations will use the same wireless AP in this example, but each station *may* be configured for a different AP as long as all stations on the same radio use APs on the same channel.

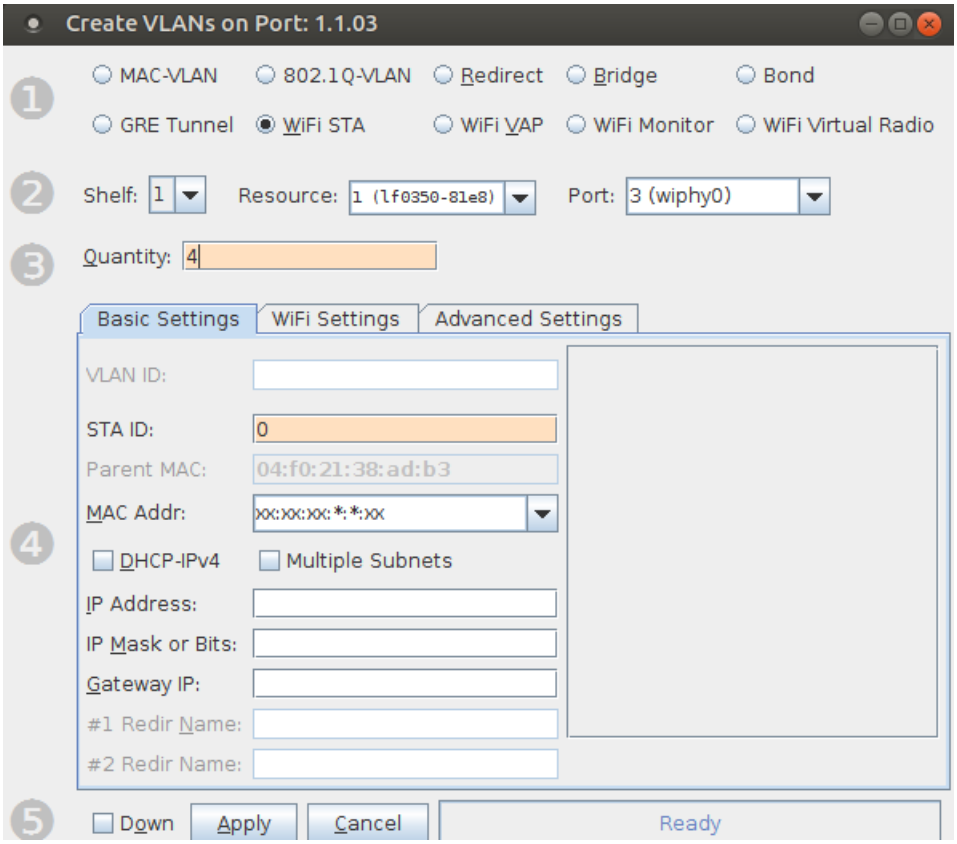
A. Go to the Port Manager



B. Select port wiphy0 and click Create



C. Select the **Wifi STA** button, then enter **MAC**, **Quantity**, **STA ID**, and **SSID**. Select the DHCP-IPv4 checkbox:



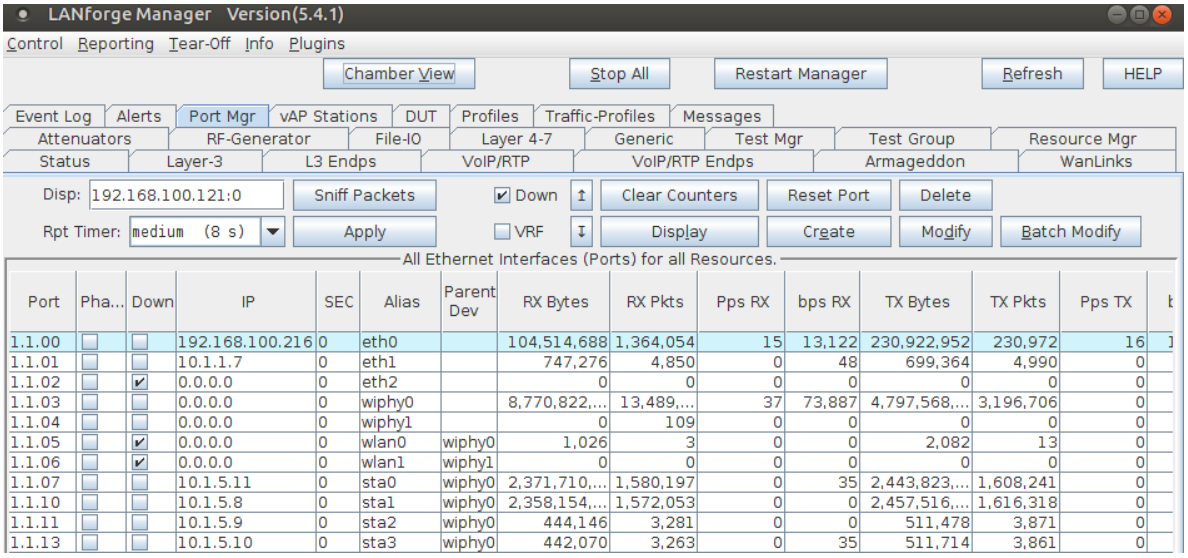
A. In this example, all 4 virtual stations will connect to the same access point

B. If your access point can serve DHCP, you can select the 'DHCP-IPv4' checkbox here to enable each virtual station as a DHCP client

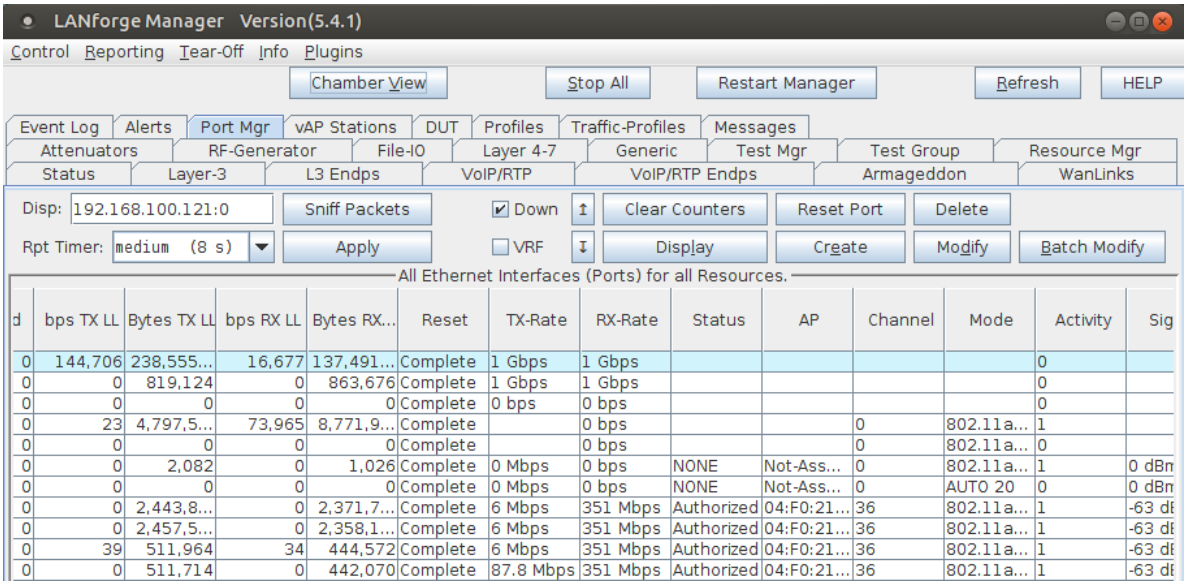
C. If you choose to enter IP addresses manually, the create function will increment the last octet of the IP address for each virtual station created

D. Click **Apply** when finished

D. Verify that the virtual wireless stations are created



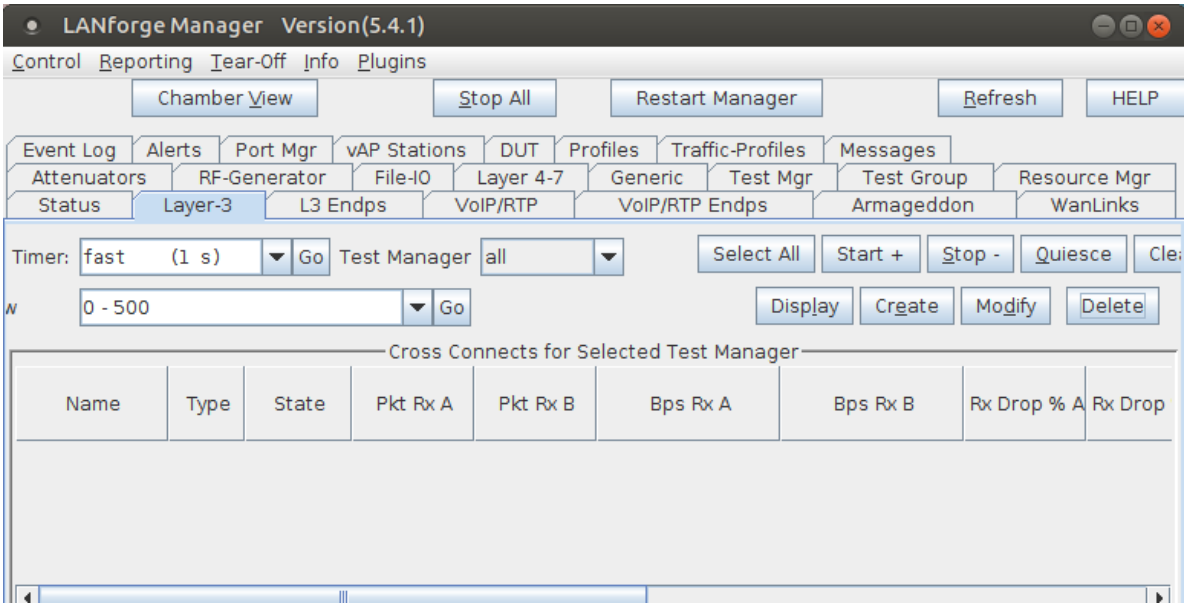
E. Scroll to the right to view each station's link quality and other interface details



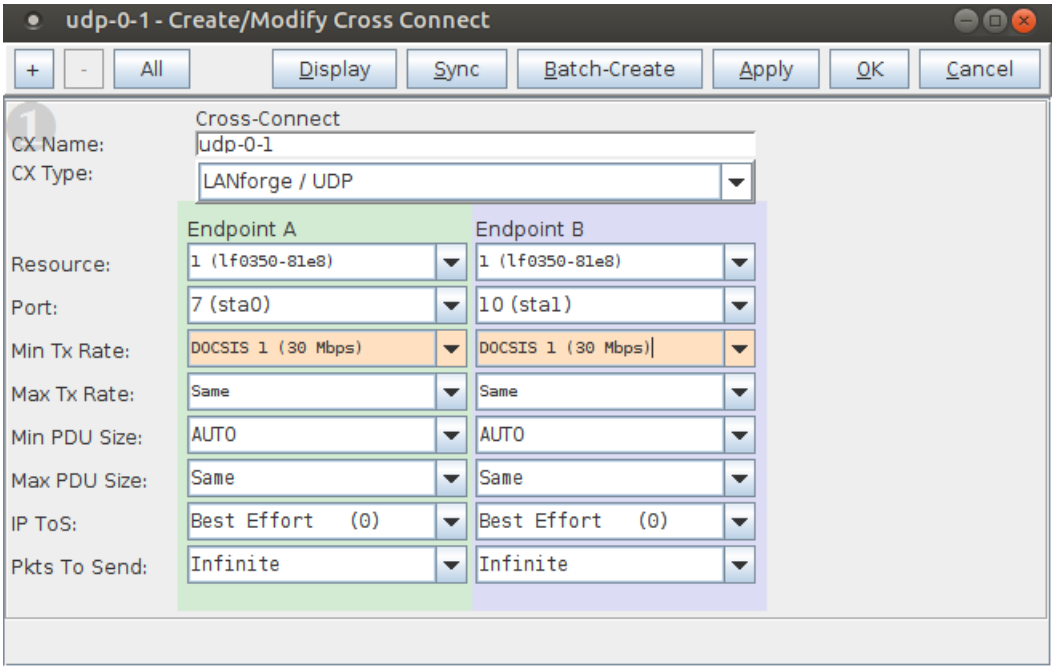
d	bps TX LL	Bytes TX LL	bps RX LL	Bytes RX...	Reset	TX-Rate	RX-Rate	Status	AP	Channel	Mode	Activity	Sig
0	144,706	238,555...	16,677	137,491...	Complete	1 Gbps	1 Gbps					0	
0	0	819,124	0	863,676	Complete	1 Gbps	1 Gbps					0	
0	0	0	0	0	Complete	0 bps	0 bps					0	
0	23	4,797,5...	73,965	8,771,9...	Complete		0 bps			0	802.11a...	1	
0	0	0	0	0	Complete		0 bps			0	802.11a...	0	
0	0	2,082	0	1,026	Complete	0 Mbps	0 bps	NONE	Not-Ass...	0	802.11a...	1	0 dBm
0	0	0	0	0	Complete	0 Mbps	0 bps	NONE	Not-Ass...	0	AUTO 20	0	0 dBm
0	0	2,443,8...	0	2,371,7...	Complete	6 Mbps	351 Mbps	Authorized	04:F0:21...	36	802.11a...	1	-63 dB
0	0	2,457,5...	0	2,358,1...	Complete	6 Mbps	351 Mbps	Authorized	04:F0:21...	36	802.11a...	1	-63 dB
0	39	511,964	34	444,572	Complete	6 Mbps	351 Mbps	Authorized	04:F0:21...	36	802.11a...	1	-63 dB
0	0	511,714	0	442,070	Complete	87.8 Mbps	351 Mbps	Authorized	04:F0:21...	36	802.11a...	1	-63 dB

For more information see LANforge User's Guide: Ports (Interfaces)

2. Create Layer-3 connections between the station interfaces.
    A. Go to the **Layer-3** tab and click **Create**

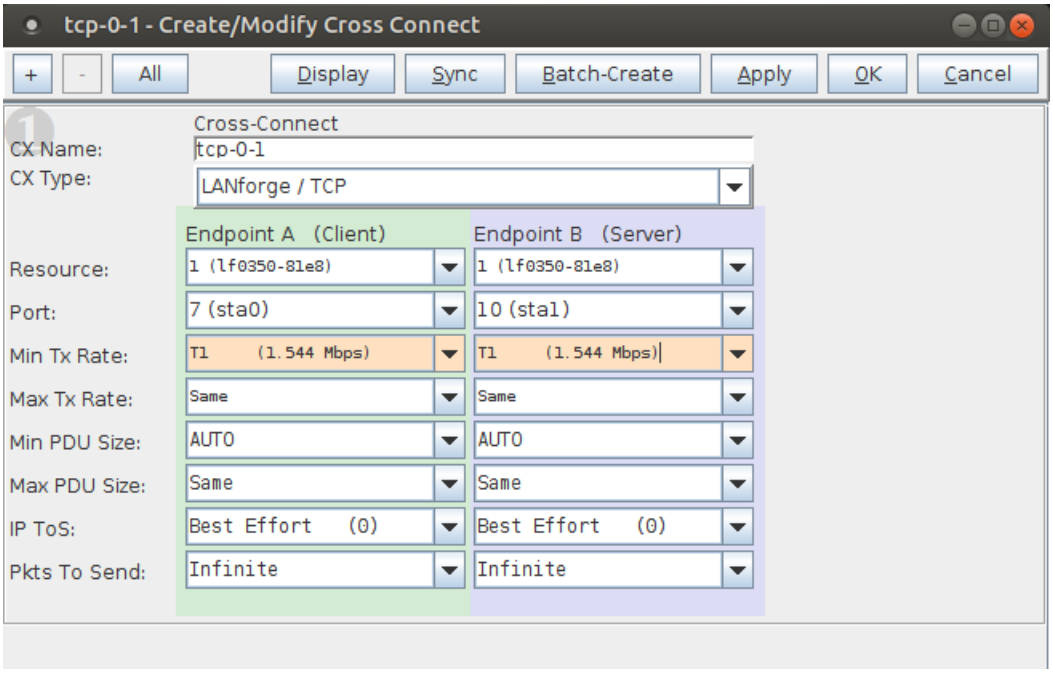


    B. Create a station-to-station UDP speed test:



    A. **Test 1**: sta0-sta1, UDP, 30Mbps

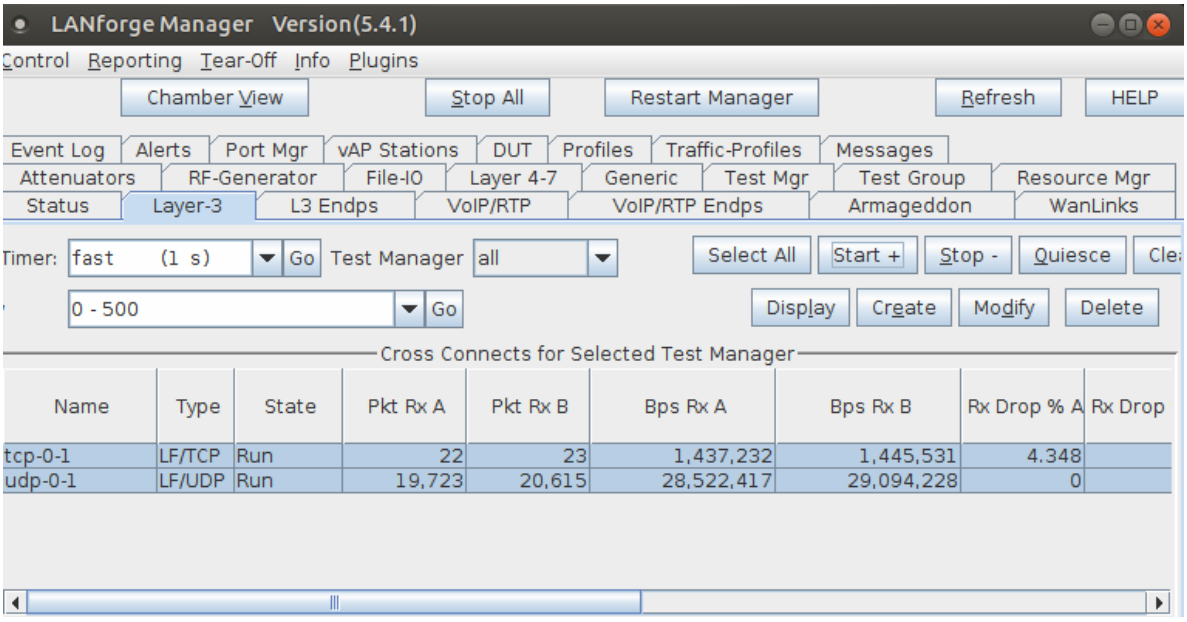
C. Create a station-to-station TCP speed test:



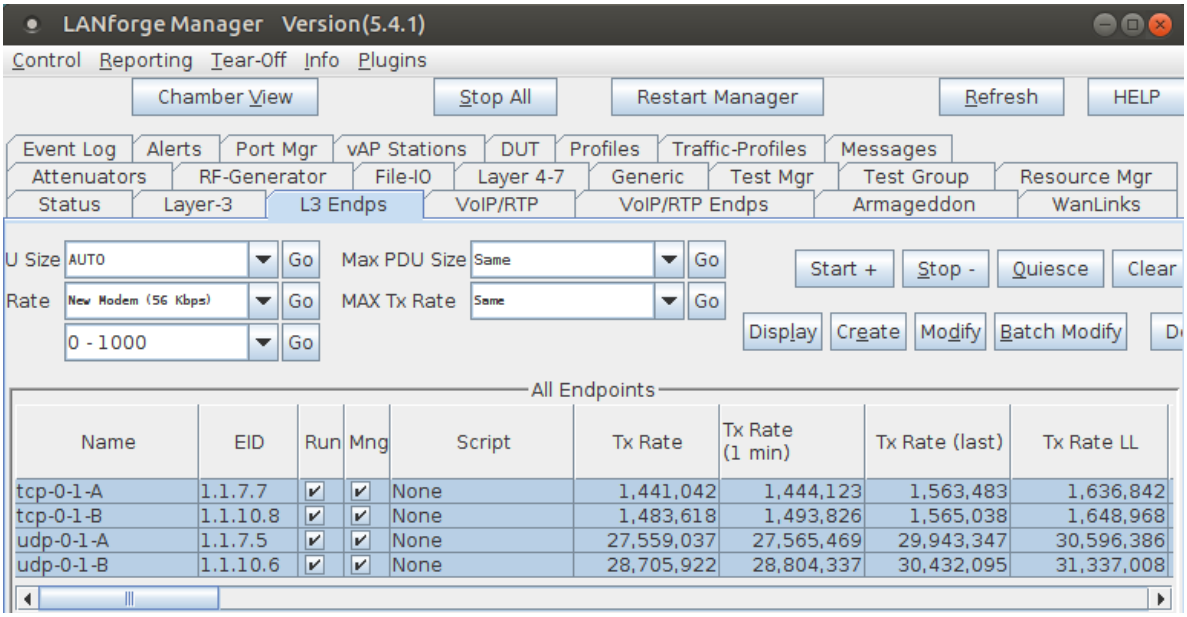
A. **Test 1**: sta0-sta1, TCP, 1.54Mbps bi-directional traffic

For more information see LANforge User's Guide: Layer-3 Cross-Connects (FIRE)

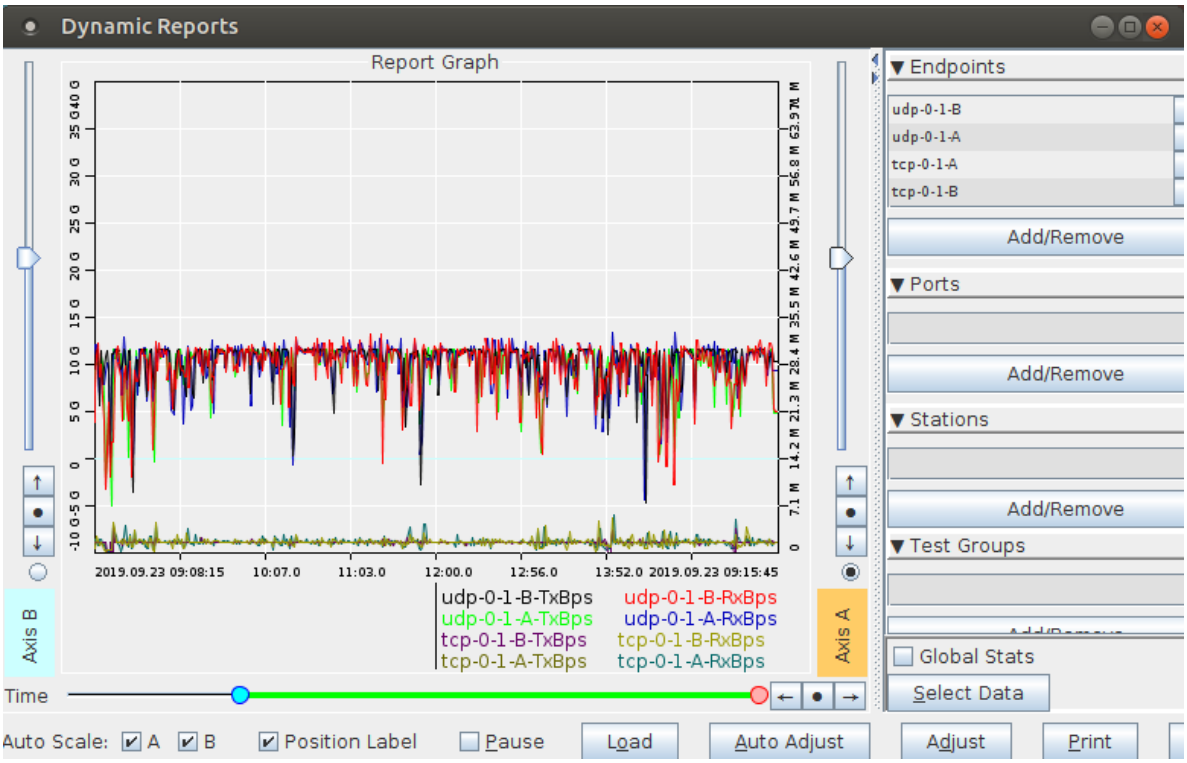
3. Run traffic tests concurrently, and view results.
   A. This example shows little packet loss, however being that this is traffic sent wirelessly via stations, their may be interruptions due to busy channel frequencies, if needed, adjust your Tx rate accordingly.



B. The **Layer-3 Endpoints** tab has more detail.



C. Select the cross-connects or endpoints and Right-Click → Dynamic Report on the **L3 Endp** or **Layer-3** table to view a live report of the connections.



For more information see LANforge User's Guide: Layer-3 Endpoints (FIRE)

For more information see LANforge User's Guide: Reporting